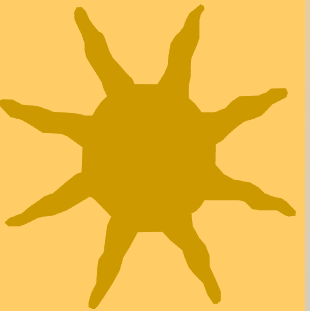




8-hr Ozone Control Measures for Connecticut



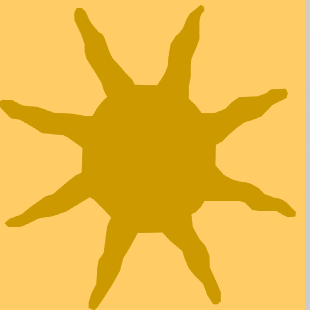
CT Department of Environmental Protection

Presented at:

SIPRAC

Hartford, CT

March 9, 2006





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Supervising Engineer

Connecticut Department of Environmental Protection

Bureau of Air Management

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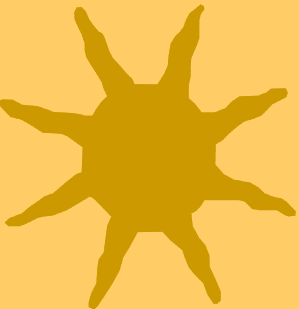
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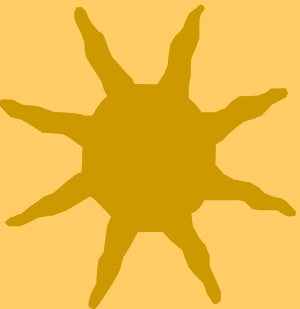




Overview

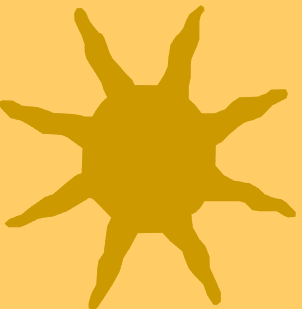


- ★ Issues
- ★ Regional Efforts
- ★ State Efforts
- ★ Where we are
- ★ Next steps





Problem: Nonattainment 8-hr Ozone Std.



- ★ Modeling shows that CAIR plus local measures will not get CT into attainment.
- ★ Transport makes regional participation and efforts vital for ozone attainment.
- ★ Implement additional local reductions for Further Reasonable Progress.



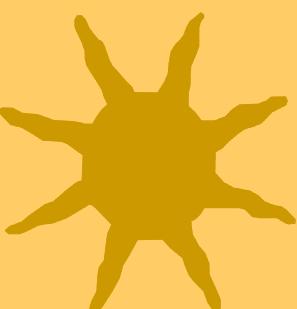
Important Dates



- 15Sep06 RACT/RACM SIP Due
- 15Jun07 Attainment Demonstration Due
- 15Jun10 Attainment date: moderate areas or bump-up to serious
- 15Jun13 Attainment date: serious areas



OTC Process



- ★ Assess RACT categories to be updated or added.
- ★ Category Lead is selected from state contacts.
- ★ Identify control measures.
- ★ Evaluate emission reductions.
- ★ Evaluate control costs.
- ★ Prepare white paper for recommendation.
- ★ Include potential reductions in modeling.
- ★ Proceed with model rule development.



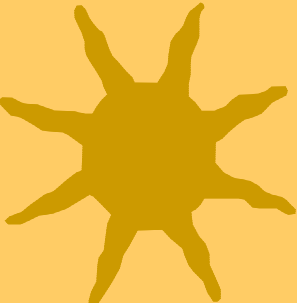
Regional Control Measures



- ★ Cement Kilns – reductions based on SNCR
- ★ MWC – Implement final federal rule
- ★ Petroleum Refineries – enhance LDAR, flare min., LNBs
- ★ Consumer Products – CARB 7/05 amendments, 13 cat.
- ★ Portable Fuel Containers – spillage improvement
- ★ Distillate Heating Oil – Limit S content to 500 ppm
- ★ EGUs – Super-Regional approach with LADCO
- ★ AIM Coatings – VOC reductions from 13 categories
- ★ Diesel Truck Chip Reflash – upgrade software in engine electronic control module



Regional Control Measures



- ★ Peaking Units – water injection
- ★ Asphalt Paving – address cutback/emulsified
- ★ Asphalt Production – require LNB, FGR on plants
- ★ POTWs – Covers on primary treatment
- ★ Autorefinish Coatings – address coatings
- ★ Residential Wood Combustion
- ★ Anti-Idling
- ★ Regional Fuels
- ★ Stage 1 Gasoline Distribution
- ★ Small Diesel Generation



Control Measures under Consideration in CT



★ **EGUs.** Limit NO_x emissions by replacing the NO_x budget-trading program with a CAIR ozone season trading program.



★ **ICI Boilers.** Revise the ICI boiler NO_x limits in accordance with OTC model rule provisions for ICI boilers.



★ **Peaking Units.** Address Peak Day Emissions. Concepts include bubbles, APCE, daily trading program.



Control Measures (cont.)



- ★ **Solvent Cleaning.** More closely conform our metal cleaning requirements to the 2001 OTC model rule for solvent cleaning.
- ★ **Consumer Products.** Mirror the OTC model rule for consumer products and similar rules adopted by other states in the region.
- ★ **AIM Coatings.** Mirror the OTC model rule for AIM coatings and similar rules adopted by other states in the region.
- ★ **Portable Fuel Containers.** Adopt CARB 2005 amendments to include kerosene and utility jugs.



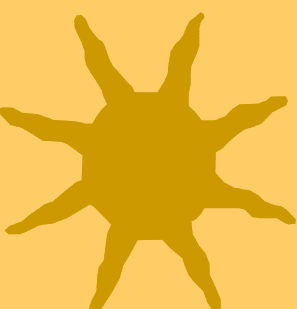
EGUs



- ★ **NOx Budget Program.** 4466 tons (May-Sep); 59 units: 32 EGUs, 24 small EGUs (15-25MW), 3 non-EGUs
- ★ **CAIR budget (May 2009).** EGUs only: 2559 tons (May-Sep). Can add 485 tons from NBP small/non-EGU for a total of 3044 tons
- ★ **2004 Actual emissions.** 2195 tons (EGUs + small/non-EGUs)
- ★ **2004 Average NOx Emission Rate.** NBP sources: 0.074 lb/MMBtu
- ★ **OTC/LADCO Joint Proposal. (CAIR Plus)**
 - Annual NOx rate 0.12 (0.08) lb/MMBtu in 2009 (in 2012)
 - Annual SO2 rates 0.24 lb/MMBtu (2009) and 0.14 lb/MMBtu (2012).
 - CT has fuel sulfur limit of 0.3% (0.33lbSO₂/MMBtu) for EGUs and 0.5% for NBP small/non-EGUs. CT is not in CAIR SO₂ program as it has not been found to contribute to other states' PM_{2.5} nonattainment



ICI Boilers



- ★ Steam generating units that generate steam to supply power and/or heat to industrial, institutional, or commercial operations.
- ★ Boiler thresholds
 - OTC range: 100-250 MMBtu/hr - 60 units
 - CT Considering 5-100 MMBtu/hr – > 885 units
- ★ Control Strategies
 - Flue Gas Treatment, combustion modification, maintenance



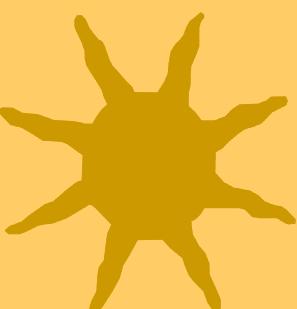
Asphalt



-
- ★ **Asphalt paving.** Limit VOC emissions from asphalt paving in accordance with an OTC model rule for asphalt paving.
 - Emulsified
 - Cutback
 - ★ **Asphalt production plants.** Limit NO_x emissions from asphalt production plants by defining a minor source RACT limit that requires the installation of low NO_x burners and flue gas recirculation.



Solvent Cleaning



- ★ Amend RCSA 22a-174-20(1)
- ★ Prohibit the use of cold cleaning solvents with a vapor pressure of 1.0 mm Hg or greater, measured at 20 degrees C.
- ★ Exemptions for:
 - Two liters or less,
 - Special and extreme metal cleaning,
 - Safety considerations.



Next Steps



- ★ OTC will continue evaluation of control measures and develop model rules.
- ★ CT will continue to participate in regional effort to encourage additional “upwind” reductions and where appropriate adopt model rules.
- ★ CT will engage SIPRAC in rule-making process.
- ★ CT will continue to do everything reasonably possible to attain 8-hr O₃ std by 2010.
- ★ Comments can be submitted to OTC on model rules or control measures.



Questions



Additional information on control measures:

Ozone Transport Commission (OTC):
otcair.org



Lake Michigan Air Director Consortium
(LADCO): ladco.org

